

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of November 21, 2007 is respectfully requested.

By this Amendment, claim 20 has been amended, and claim 22 has been cancelled. Thus, claims 20, 21 and 23 are currently pending in the application. No new matter has been added by these amendments.

On pages 2-4 of the Office Action, the Examiner rejected claims 20, 22 and 23 under 35 U.S.C. § 102(b) as being anticipated by Antaki et al. (US 6,015,272). On pages 4-5 of the Office Action, the Examiner rejected claim 21 under 35 U.S.C. § 103(a) as being unpatentable over Antaki in view of Issacson et al. (US 5,211,546). For the reasons discussed below, it is respectfully submitted that the amended claims are clearly patentable over the prior art of record.

Amended independent claim 20 recites an artificial cardiac pump comprising a housing, an axial body fixed in the housing, and an impeller arranged so as to be rotatable around the axial body, with the axial body extending through the impeller. The cardiac pump of claim 20 also includes a front-side fixed body connected to a front side of the axial body, and a rear-side fixed body connected to a rear side of the axial body such that the axial body is sandwiched between the front-side fixed body and the rear-side fixed body. Claim 20 also recites that the impeller includes a sleeve and impeller wing-components protruding from an outer peripheral surface of the sleeve, the sleeve being arranged such that an inner peripheral surface of the sleeve faces an outer peripheral surface of the axial body across a gap, a front-end surface of the sleeve faces a rear-end surface of the front-side fixed body across a gap, and such that a rear-end surface of the sleeve faces a front-end surface of the rear-side fixed body across a gap. Further, claim 20 recites that the sleeve includes a first magnet arranged to face the rear-end surface of the front-side fixed body, and the front-side fixed body includes a second magnet arranged to face the front-end surface of the sleeve, with the first and second magnets being permanent magnets, and the first and second magnets being arranged such that a pole of the first magnet faces a same pole of the second magnet so as to produce a repulsion force in an axial direction of the axial body between the first magnet and the second magnet.

Antaki discloses a fluid pump which, as shown in Fig. 34, includes a stator 320

surrounded by an impeller 322 within a housing 324. Antaki also discloses permanent magnets 329 and 330 in the stator 320 and permanent magnets 331 and 332 in the impeller for supporting the impeller.

However, Antaki does not disclose *the first and second magnets being arranged such that a pole of the first magnet faces a same pole of the second magnet so as to produce a repulsion force in an axial direction of the axial body between the first magnet and the second magnet*, as required by amended independent claim 20. Rather, Fig. 34 clearly shows that the magnets 329 and 330 in the stator 320 face the same poles as the magnets 331 and 332 in the impeller to thereby produce a repulsion force acting in a radial direction, and therefore Antaki does not disclose the first and second magnets being arranged such that a pole of the first magnet faces a same pole of the second magnet so as to produce a repulsion force in an axial direction of the axial body between the first magnet and the second magnet, as required by independent claim 20.

Therefore, it is respectfully submitted that independent claim 20 is clearly allowable over the prior art of record. It is also respectfully submitted that claims 21 and 23 are also allowable by virtue of their dependency from claim 20.

In addition, the Examiner's attention is directed to the dependent claims which further define the present invention over the prior art. For example, dependent claim 21 recites that thrust hydrodynamic generation grooves for supporting a thrust load applied to the impeller are provided at the rear-end surface of the front-side fixed body and at the front-end surface of the rear-side fixed body. In this regard, the Examiner asserts that the features of claim 21 are disclosed in column 17, line 64 through column 18, line 5 of Issacson. However, it is noted that the Issacson discloses thrust grooves provided on the end surface of the rotor, and therefore Issacson does not disclose thrust hydrodynamic generation grooves provided at the rear-end surface of the front-side fixed body and at the front-end surface of the rear-side fixed body, as required by dependent claim 21.

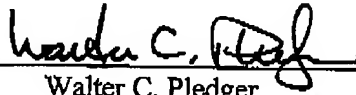
In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice to that effect is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining

which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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